

Date: Thursday, 04/09/2008 1:22:04 PM
 User: Julie Lecocq

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	206L AFT X-TUBE
Job Number :	41814		
Estimate Number :	10973		
P.O. Number :		Part Number :	D206667203
This Issue :	04/09/2008	S.O. No. :	
Prsht Rev. :	NC	Drawing Number :	D206-667-243 REV B + DSE # 9415 01.09.05
First Issue :	//	Project Number :	N/A
Previous Run :	41396	Drawing Revision :	B
	Type :	Material :	
	CROSSTUBES	Due Date :	15/09/2008
Written By :		Qty:	1
Checked & Approved By :	JLD 08.9.04	Um:	Each
Comment :	Est Rev:F 05.09.01 Add holes for compatibility with Bell Skid tubes KJ/JLM Est Rev:G 08-06-03 update as per DS19415 (ECN1198) DD verified by:ec Est Rev:H 08-07-18 remove thread masking in step 12 DD verified by:EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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JLD 08.9.16



Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D206-667-203 CHG003

SOS 10/12

2.0	D206667203TRN	Crosstube Turning Detail
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

CROSSTUBE TURNING DETAIL

batch B41620

DP 8-9-11

3.0	BENDING	BENDING MACHINE - SKIDTUBES
-----	---------	-----------------------------



Comment: BENDING MACHINE

Bend tube as per Dwg D206-667-243 using CNC bender program 206L-AF and Folio FT

DP 8-9-11

4.0	QC15	DIMENSIONAL CHECK OF X-TUBES
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Comment: DIMENSIONAL CHECK OF X-TUBES

8.09.12 ①

5.0	CROSSTUBES	CROSSTUBES RESOURCE 1
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Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes in tube using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill all (3) top holes.

2-Drill and Ream all holes in tube to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243

8.09.12

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 41814

Part Number: D206667203

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

Check dimensions between holes on all four sides.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8583 & DT8584 as per Dwg D206-667-243. Drill only the top (2) holes.

5-Drill & ream the top (2) holes to finish size using drill Jig DT8583 & DT8584 as per Dwg D206-667-243

6-Drill Fwd rivet holes using drill Jig DT8789FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8789 as per Dwg D206-667-243

8-C'sink holes as per Dwg D206-667-243.

9-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-243

10-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-243
Inside of Cuff(Donot engrave on outside of tube)

RT
08-09-12

AWM 8-9-16

RT 08 09 -12

6.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
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AWM 8-9-16



Comment: HAND FINISHING RESOURCE #1
Chemical Conversion Coat as per QSI 005 4.1

7.0	QC3	INSPECT POWDER COAT/CHEMICAL CONVERSION
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Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

S 08/02/16

8.0	QC5	INSPECT WORK TO CURRENT STEP
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Comment: INSPECT WORK TO CURRENT STEP

S 09/02/16

9.0	OUTSIDE SERV.11	OUTSIDE SERVICE -CROSSTUBES
-----	-----------------	-----------------------------



Comment: Sub-Contracting OUTSIDE SERVICES
Liquid Penetrant Inspection as per QSI 038Or
Issue P/O: 7194
LPI as per ASTM 1417
Level 2 Attach copy of NDT results to work order

08/09/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 41814

Part Number: D206667203

Job Number:



Seq. #: Machine Or Operation: Description :

10.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Inspect for transit damage

Ensure copy of NDT results attached to work order.

8/9/18

11.0

QC5

DIMENSIONAL CHECK



ml 08 09 25



(1)

Comment: Inspect for damage & ensure results are as per Dwg D206-667-103

12.0

SPRAY PAINTING

SPRAY PAINTING



Comment: SPRAY PAINTING

1-Prime inside and outside crosstube as per QSI 005 4.2

2-Paint outside crosstube with White Imron as per QSI 005 4.2

ml 08 09 25

(1)

13.0

QC14

INSPECT SPRAY PAINT



Comment: Inspect Spray Paint

Wrap in plastic bag to protect from scratches

B 08 09 26 (1)

14.0

D2873045

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch
2 D2873-045 Nut Plate *37942*

RT 08-07-18

15.0

D2873043

Nut Plate Assembly



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch
2 D2873-043 Nut Plate *37769*

RT 08-07-18

16.0

MS20601AD4W10

RIVET



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Pick:

Qty Part number Description Batch
14 MS20601AD4W10 Rivet *108076^{x8} / 108673^{x6}*

RT 08-09-18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 41814

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

17.0

CROSSTUBES

CROSSTUBES RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Install nut plates as per Dwg D206-667-243.

25 08-09-18

18.0

D3595075450

RUBBER CUSHION .75" x 4.50



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

RUBBER CUSHION .75" x 4.50

B:40221

ml 08 09 26

19.0

D28921

Support



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part number Description Batch

2 D2892-1

Support

37654

ml 08 09 26

20.0

MS2192022

Clamp(per MIL-DTL-8783C)



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part number Description Batch

4 MS21920-22

Clamp

107356

ml 08 09 26

21.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

Magnabond B:108966 exp:10/2009 time 10:40am

1-Install abrasion strips as per QSI 035 using DT6580. Note: (3) top holes should be facing up.

ml 08 09 26 (1)

2-Install supports and clamps as per Dwg D206-667-243. Torque clamps to 80-100 in lb

ml 08 09 29 (1)

22.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08-09-29 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 41814

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

23.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1
Pick Packing Kit

24.0

AN534A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)
Bolt
Batch: M107013

SP

25.0

MS21042L5

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)
Nut
Batch: M108061

SP

26.0

AN510A

Bolt



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)
Pick:Packing Kit
Qty Part number Description Batch
10 AN5-10A Bolt M108827

SP

27.0

AN532A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)
Pick:Packing Kit
Qty Part number Description Batch
4 AN5-32A Bolt M107013

SP

28.0

AN960JD516

Washer



Comment: Qty.: 18.0000 Each(s)/Unit Total: 18.0000 Each(s)
Pick:Packing Kit
Qty Part number Description Batch
18 AN960JD516 Washer M108672

8/9/29

SP

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 04/09/2008 1:22:04 PM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: 206L AFT X-TUBE

Job Number: 41814

Part Number: D206667203

Job Number:



Seq. #:

Machine Or Operation:

Description :

29.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

08/09/29 (cc)

30.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D206-667-203

Location: _____

PPP Rev: 0

8/9/09

54

31.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

08/09/30

Job Completion



MF 08-09-30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

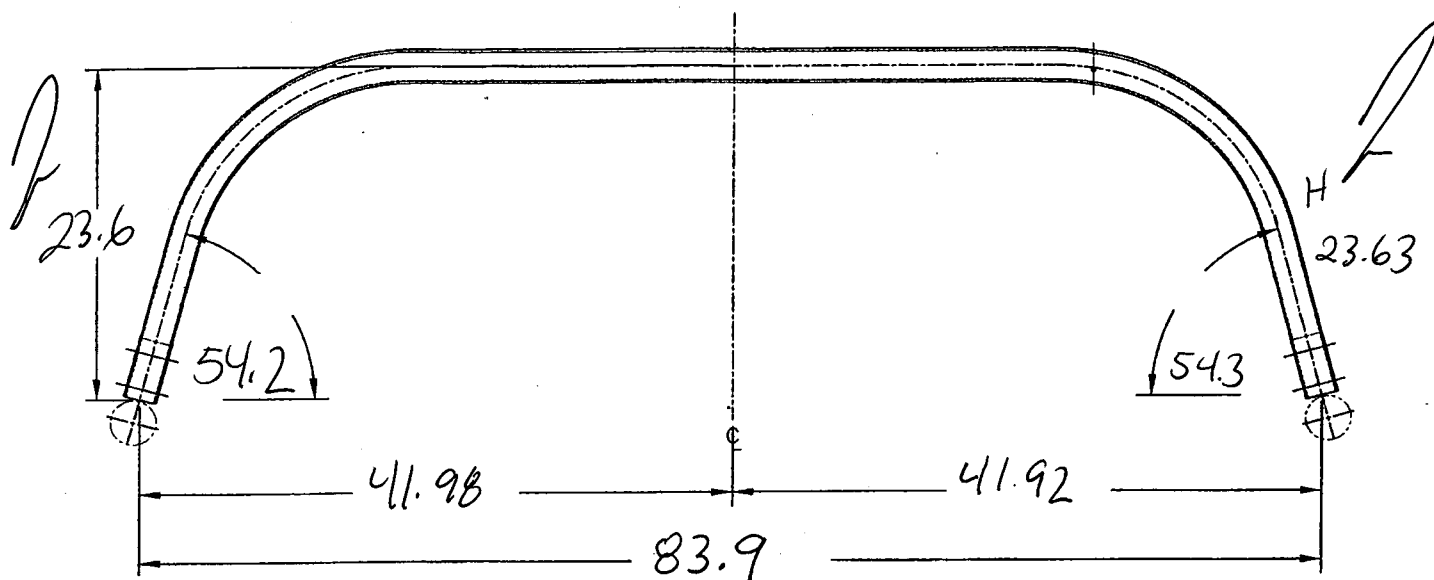
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 41814
Description: Crosstube High Aft (206L)		Part Number: D206-667-203
Inspection Dwg: D206-667-243 Rev: B		Page 1 of 1

Required Dimension	Min	Max
Height	23.46	23.58
1/2 Span	41.86	41.98
Angle	54	56
Total Span	83.72	83.96



Comments

QC15 Inspection	<i>[Signature]</i> 08.07.12
Date	

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM <i>[Signature]</i>	<i>[Signature]</i>

DART

DESIGN PH	DRAWN BY PH	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED # DS	APPROVED # DS	DRAWING NO. D206-667-243	REV. B SHEET 1 OF 3
DATE 05.07.26		TITLE CROSSTUBE ASS'Y (206L HIGH AFT)	SCALE NTS
A	00.11.17	NEW ISSUE	
B	05.07.26	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	

RELEASED
05.07.26 #**UNDER REVIEW**06.08.10 RT
12.08.05 detail F
08.09.05

Qty	Part Number	Description
X	D206-667-243	CROSSTUBE ASSEMBLY
1	D6004-115	CROSSTUBE
2	D2856-400-773	ABRASION STRIP
2	D2873-043	NUT PLATE
2	D2873-045	NUT PLATE
2	D2892-1	SUPPORT
14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
4	MS21920-22	CLAMP

DSI 9415
08.09.05**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) MATERIAL: MANUFACTURED FROM D6004-115
FINISHED LENGTH = 104.91±0.020
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 4) PART IS SYMMETRIC ABOUT CENTERLINE.
- 5) RUN-OFF PART. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 6) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 7) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 8) SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING STYLUS.
- 9) INSTALL D2856-400-773 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE, CENTERED OPPOSITE D2892-1 SUPPORT, PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) IT IS OPTIONAL TO SEAL EDGES OF SUPPORTS AND ABRASION STRIP USING SIKAFLEX-241/291 SEALANT.
- 12) TORQUE CLAMPS 80 TO 100 IN-LB.

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RETURN TO

THE ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

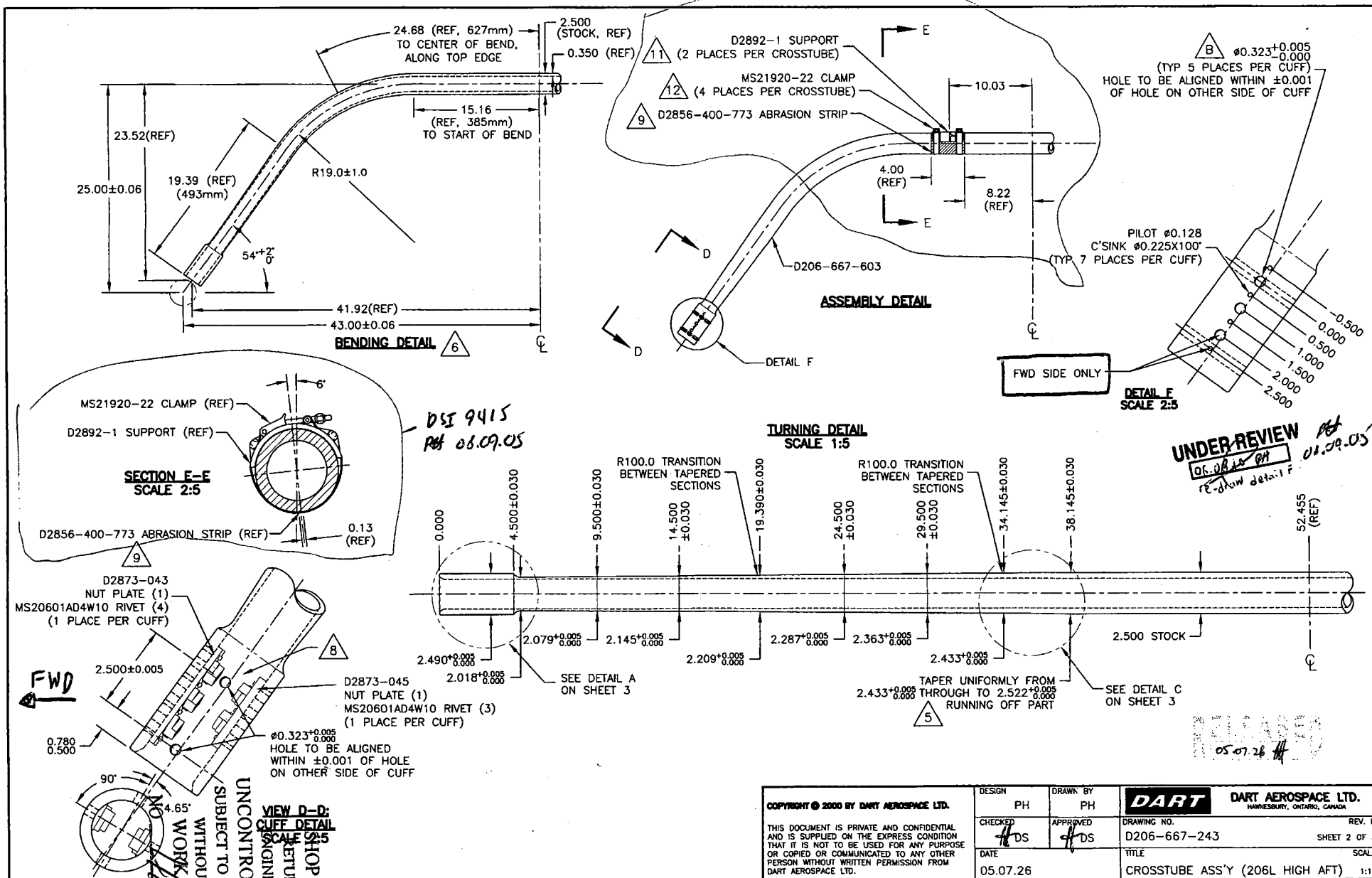
WORK ORDER

NO. 41874

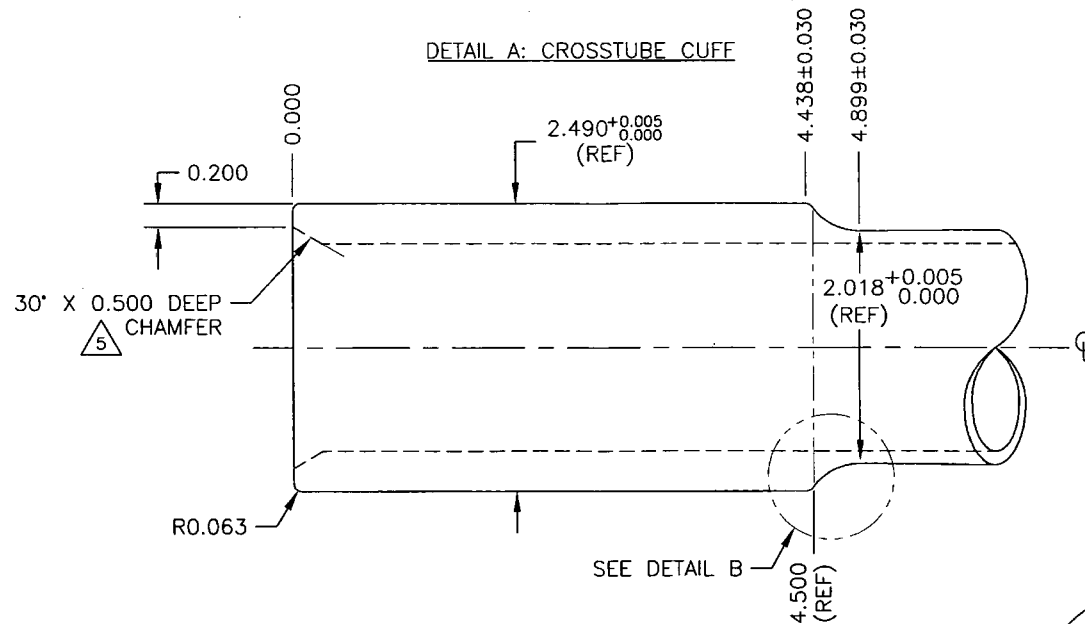
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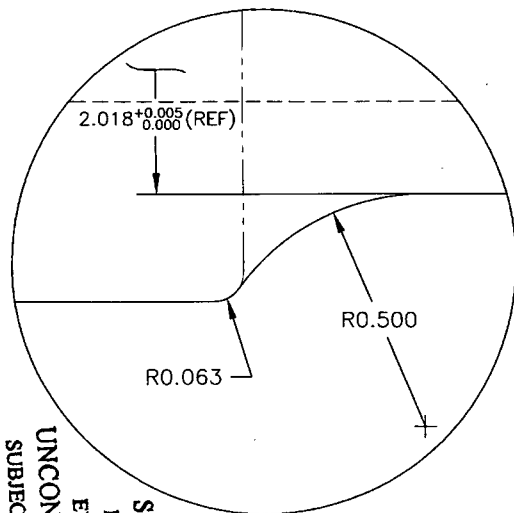
SEE DSI
9415 PH 08.09.05



DETAIL A: CROSSTUBE CUFF

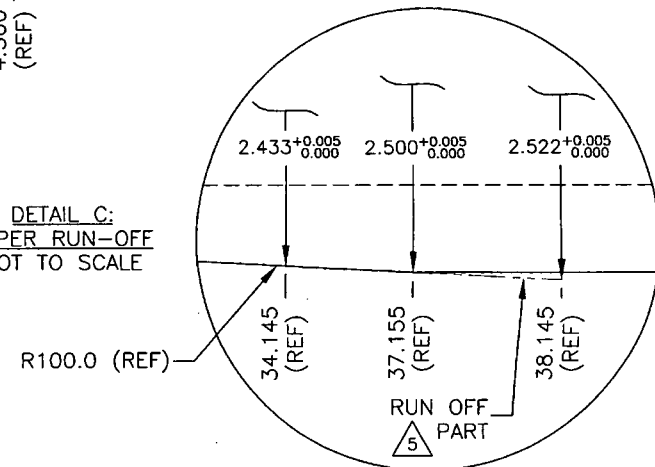


UNDER REVIEW
06.03.16 PH
re-draw Detail F
PH 02.09.05



DETAIL B: CUFF
TRANSITION
SCALE 4:1

DETAIL C:
TAPER RUN-OFF
NOT TO SCALE



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DESIGN PH	DRAWN BY PH	DART	DART AEROSPACE LTD. HAWKESBURY, ONTARIO, CANADA
CHECKED HDS	APPROVED HDS	DRAWING NO. D206-667-243	REV. B SHEET 3 OF 3
DATE 05.07.26	TITLE CROSSTUBE ASS'Y (206L HIGH AFT)	SCALE 1:1	

NO. 4197
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 41814

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D206-667 REV. C AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D206-667 REV. 2
REF: CANADIAN STC: SH01-5
REF: FAA STC: SR01304NY

For D206-667-101/-201/-103/-203 or D407-667-105 cross tubes at CHG 003 or later, the D2856-400-694/-773 abrasion strip has been removed, the center D2891-1 or D2892-1 support has been bonded onto the crosstube using Magnabond 6398 and D3595-075-395/-450 Rubber Cushions have been installed underneath the MS21920-20/-22 Clamps. Amend parts list of the IIN-D206-667 section 5 and ICA-D206-667 Section 32.8 as follows:

REMOVE:

ITEM	QTY -101	QTY -201	QTY -103	QTY -203	QTY -105	PART NUMBER	DESCRIPTION
13	2	2	2		2	D2856-400-694	ABRASION STRIP
14				2		D2856-400-773	ABRASION STRIP

ADD:

ITEM	QTY -101	QTY -201	QTY -103	QTY -203	QTY -105	PART NUMBER	DESCRIPTION
24	4	4	4		4	D3595-075-395	RUBBER CUSHION
25				4		D3595-075-450	RUBBER CUSHION

To prevent the supports from shifting on the D206-667-101/-201/-103/-203 or D407-667-105 crosstubes at CHG 002 or earlier, the D2891-1/D2892-1 supports should be removed and re-installed as follows:

- Follow section 32.1 of ICA-D206-667 for the removal of the crosstubes from the helicopter.
- Remove the qty (2) MS21920-20/-22 clamps from the crosstube that fasten the D2891-1/D2892-1 supports to the crosstube.
- Remove the D2856-400-694/-773 abrasion strip from the crosstube per section 32.5 of ICA-D206-667.
- Inspect the crosstube surface underneath the support for corrosion and mechanical damage per items 5.3.1 and 5.3.2 of the 300 hour inspection of ICA-D206-667. Repair damage within acceptable limits per item 5.3.3 of the 300 hour inspection in ICA-D206-667. Touch up finish per item 5.3.9 of the 300 hour inspection.
- Abrade area to which support will be applied with 400 grit sandpaper. Saturate a clean cloth with MEK or 4105S Wash'n'Wipe Degreaser or equivalent and wipe area until there is no residue.
- Apply a 0.03" to 0.06" thick layer of Magnabond 6398 underneath the D2891-1/D2892-1 support and re-install the support on the crosstube as shown in Figure 1. Position and secure the D2891-1/D2892-1 support on the crosstube using MS21920-20/-22 Clamps. Install a D3595-075-395/-450 Rubber cushion underneath each MS21920-20/-22 Clamp. Torque clamps 80-100 in-lb. Let the D206-667-101/-201/-103/-203 or D412-667-105 crosstube assembly cure as per the Magnabond 6398 instructions before re-installing the crosstube on the aircraft.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: D. Shepherd
D. SHEPHERD (DE # 02)

DATE: 08.05.26
CERT. NO.: SH01-5
ISSUE NO.: 3

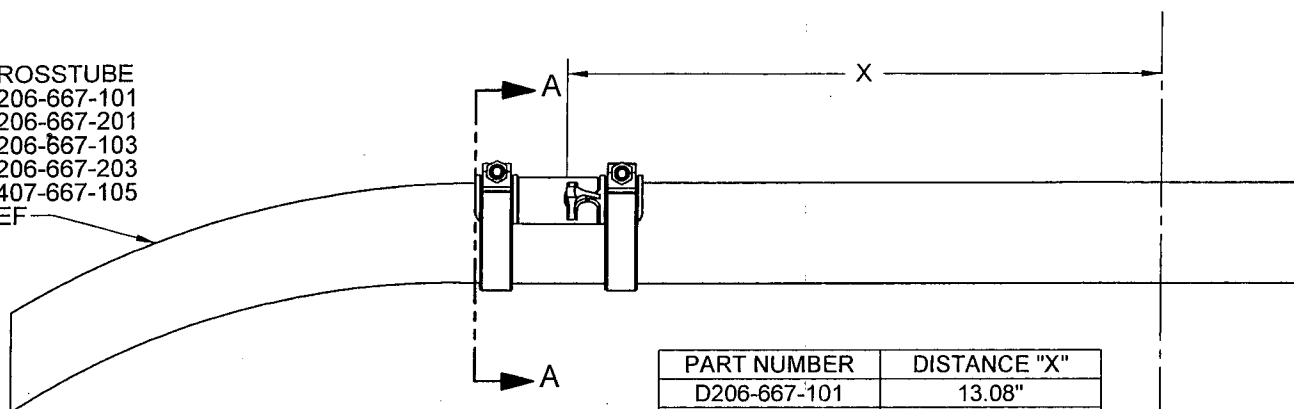
A	NEW ISSUE	HS	08.05.26
REV.	DESCRIPTION	BY	DATE
DESIGN	HS	DART AEROSPACE LTD	
DRAWN	HS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.	EE	DSI 9415	SHEET 1 OF 2
APPROVED	WFO	TITLE	SCALE
DE APPR.	TH	CROSSTUBE SUPPORT CHANGE	NTS
DATE	08.05.26	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

7) Re-install the D206-667-101/-201/-103/-203 or D412-667-105 crosstube per section 32.2 of ICA-D206-667.

For customers who would like to upgrade their D206-667-101/-201/-103/-203 or D412-667-105 crosstubes from CHG 002 or earlier to CHG 003, the following kit can be obtained from Dart:

QTY -011	QTY -013	PART NUMBER	DESCRIPTION
X		DSI 9415-011	CROSSTUBE SUPPORT CHANGE (USABLE ON D206-667-101/-201/-103 OR D407-667-105)
	X	DSI 9415-013	CROSSTUBE SUPPORT CHANGE (USABLE ON D206-667-203)
4		D3595-075-395	RUBBER CUSHION
	4	D3595-075-450	RUBBER CUSHION

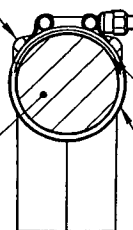
CROSSTUBE
D206-667-101
D206-667-201
D206-667-103
D206-667-203
D407-667-105
REF



PART NUMBER	DISTANCE "X"
D206-667-101	13.08"
D206-667-201	13.08"
D206-667-103	13.08"
D206-667-203	10.03"
D407-667-105	13.08"

D2891-1 OR D2892-1
SUPPORT

CROSSTUBE
D206-667-101
D206-667-201
D206-667-103
D206-667-203
D407-667-105
REF



MS21920-20/-22
CLAMP

MAGNABOND 6398 BETWEEN D2891-1/D2892-1
SUPPORT AND CROSSTUBE

D3595-075-395/-450 RUBBER CUSHION
(REF) (2 PLACES)

SECTION A-A

FIGURE 1 - CROSSTUBE SUPPORT




SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 41814

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: *D. Shepherd*
D. SHEPHERD (DE # 02)

DATE: 08.05.26
CERT. NO.: SH01-5
ISSUE NO.: 3

DESIGN	HS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	HS		
CHECKED	PH	DRAWING NO.	REV. A
MFG. APPR.		DSI 9415	SHEET 2 OF 2
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE SUPPORT CHANGE	NTS
DATE	08.05.26	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



LIQUID PENETRANT TEST REPORT

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CLIENT	DART AEROSPACE	DATE	SEP 18, 2008	TIME	AM <input type="checkbox"/> PM <input type="checkbox"/>
ATTENTION	LINDA LACELLE	ACUREN JOB No.	188 08 1506		
ADDRESS	1270 ABERDEEN ST	PO/VO No.	7194		
	HAWKESBURY, ONT.	WORK LOCATION	HAWKESBURY, ONT.		
		ACCEPTANCE STD.	ASTM 1417/QSI-038	REV./DATE	2005
PROJECT	206L AFT X TUBE, 212/205 HIGH FED X TUBES, 412 HIGH AFT X TUBE				
ITEM(S) EXAMINED	SEE BELOW				

JOB DESCRIPTION	PROCEDURE No. LT-0002 REV./DATE	TECHNIQUE No. LT-TECH2 REV./DATE
'PART No. D206667203/D212664101/D412664203 MATERIAL ALODINED ALUM. THICKNESS		
SCOPE WET FLOURESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE		

TEST DETAILS

METHOD	<input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND	MAGNAFLUX		BLACK LGHT8171	<input type="checkbox"/> OUTPUT > 1000 μ W/CM ²	<input type="checkbox"/> AMBIENT < 2 fc
PENETRANTZL67	MINIMUM DWELL TIME	45 MIN.	LIGHTING EQUIP.	<input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT	<input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER H2O	MINIMUM DRY TIME	>10 MIN.	OTHER	CAL JUNE 16 08	
DEVELOPER SKDS2	MINIMUM DWELL TIME	10 MIN.	LIGHT METER S/N	CAL DUE DATE	
DEVELOPER TYPE	<input checked="" type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY		

TEST SURFACE

SURFACE CONDITION	<input type="checkbox"/> AS GROUND	<input type="checkbox"/> AS WELDED	<input type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE	<input type="checkbox"/> < -4°C/ 20°F	<input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F	<input type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F	

RESULTS- (☐ METRIC ☒ IMPERIAL)

FLUORESCENT LIQUID PENETRANT INSPECTION
CARRIED OUT ON 100% EXTERNAL
SURFACE ON:

412 HIGH AFT X TUBE JOB#: 41407, 41408

212/205 HIGH FED X TUBE JOB#: 41992.

206L AFT X TUBE JOB#: 41814 41815.

RESULTS: NO INDICATION OF DEFECTS.

ITEMS ACCEPTABLE TO STANDARD

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner operator and the owner operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE		DTR # E34741		
TECHNICIAN (SIGNATURE):		REPORT REVIEWED BY:		
NAME (PRINT):	JASON HEWETT	NAME INITIALS		
	1 ST TECHNICIAN	2 ND TECHNICIAN		
CGSB LEVEL	2	SNT LEVEL	CGSB LEVEL	SNT LEVEL
CGSB REG. No	6156	CGSB REG. No		

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